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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/925,284	08/09/2001	Daniel Hawiger	RUJ-001CNCPRCE2	2660

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EXAMINER	
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ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/925,284	HAWIGER ET AL.	
	Examiner	Art Unit	
	Ron Schwadron, Ph.D.	1644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) *1-5 and 10-12* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *6-9,13-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date ~~*See Continuation Sheet*~~.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :7/31/08 and 2/20/09 and 11/18/09.

1. Applicant's election without traverse of autoantigen in the reply filed on 2/22/10 is acknowledged.

2. Claims 6-9,13-21 are under consideration.

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 6-9,18-21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The specification does not provide adequate written description of the claimed invention. The legal standard for sufficiency of a patent's (or a specification's) written description is whether that description "reasonably conveys to the artisan that the inventor had possession at that time of the. . .claimed subject matter", Vas-Cath, Inc. V. Mahurkar, 19 U.S.P.Q.2d 1111 (Fed. Cir. 1991). In the instant case, the specification does not convey to the artisan that the applicant had possession at the time of invention of the conjugate recited in the claimed method.

The instant claims recite use of an antiDEC antibody which binds human DEC-205. The term human DEC-205 would appear to encompass full length human DEC-205 as well as mutants and variants or alleles of said human protein (for example see specification, page 28 of parent application 09/586704). However, only full length murine DEC-205 protein is disclosed in the specification of the parent application. The sequence listing discloses two peptides derived from human DEC 205 of 30 and 25 amino acids respectively. However, human DEC-205 contains approximately 1800 amino acids. There is no disclosure in the specification of the identity of the approximately 1750 other amino acids or purified human DEC-205.

Thus, whilst the specification of parent application 09/586704 discloses murine DEC-205 protein, the term human DEC-205 would appear to encompass full length human DEC-205 and undescribed mutants and variants or alleles of said human protein. Thus, the claims would encompass use of antibodies which bound full length human DEC-205 as well as undescribed mutants and variants or alleles of human DEC-205. Regarding claim 18, in the absence of human DEC-205, it would not be possible to establish which antibodies reacted with human DEC-205.

In view of the aforementioned problems regarding description of the claimed invention, the specification does not provide an adequate written description of the invention claimed herein. See The Regents of the University of California v. Eli Lilly and Company, 43 USPQ2d 1398, 1404-7 (Fed. Cir. 1997). In University of California v. Eli Lilly and Co., 39 U.S.P.Q.2d 1225 (Fed. Cir. 1995) the inventors claimed a genus of DNA species encoding insulin in different vertebrates or mammals, but had only described a single species of cDNA which encoded rat insulin. The court held that only the nucleic acids species described in the specification (i.e. nucleic acids encoding rat insulin) met the description requirement and that the inventors were not entitled to a claim encompassing a genus of nucleic acids encoding insulin from other vertebrates, mammals or humans, id. at 1240. The Federal Circuit has held that if an inventor is "unable to envision the detailed constitution of a gene so as to distinguish it from other materials. . .conception has not been achieved until reduction to practice has occurred", Amgen, Inc. v. Chugai Pharmaceutical Co, Ltd., 18 U.S.P.Q.2d 1016 (Fed. Cir. 1991).

Attention is also directed to the decision of The Regents of the University of California v. Eli Lilly and Company (CAFC, July 1997) wherein is stated:

The description requirement of the patent statute requires a description of an invention, not an indication of a result that one might achieve if one made that invention. See In re Wilder, 736 F.2d 1516, 222 USPQ 369, 372-373 (Fed. Cir. 1984) (affirming rejection because the specification does "little more than outlin[e] goals appellants hope the claimed invention achieves and the problems the invention will hopefully ameliorate."). Accordingly, naming a type of material generally known to exist, in the absence of knowledge as to what that material consists of, is not a description of that material. Thus, as we have previously held, a cDNA is not defined or described by the mere name "cDNA," even if accompanied by the name of the protein that it

encodes, but requires a kind of specificity usually achieved by means of the recitation of the sequence of nucleotides that make up the cDNA. See Fiers, 984 F.2d at 1171, 25 USPQ2d at 1606.

Regarding applicants comments, claims 13-17 are not included in the instant rejection. Regarding applicants comments and the Nussenzweig declaration, the cloned human DEC-205 sequence referred to is not disclosed in the specification of the instant application. Regarding the amended claims, human DEC-205 is approximately 1800 amino acids in length. The recitation in the claim of a 30 or 25 amino acid sequence derived from said molecule in itself does not provide written description of a molecule that is almost 1800 amino acids in length. The claims encompass use of antibodies which bind any immunogenic epitope on the approximately 1775 undisclosed amino acids of DEC 205 and the specification does not disclose the identity of said amino acids or disclose purified human DEC-205 protein. Regarding Figure 6 in parent application 09/586704 (and the reference to said Figure in pages 10 and 56 of the specification), said Figure refers to experiments performed in mice, not humans.
Regarding claims 18-21, said claims still require use of human DEC-205 to determine if the antibodies cross react with human DEC-205.

Regarding applicants comments about isolating human DEC-205 (wherein isolated human DEC-205 is not disclosed in the specification), attention is directed to the decision of The Regents of the University of California v. Eli Lilly and Company (CAFC, July 1997) wherein is stated:

The description requirement of the patent statute requires a description of an invention**, not an indication of a result that one might achieve if one made that invention.** See In re Wilder, 736 F.2d 1516, 222 USPQ 369, 372-373 (Fed. Cir. 1984) (affirming rejection because the specification does "little more than outlin[e] goals appellants hope the claimed invention achieves and the problems the invention will hopefully ameliorate."). Accordingly, naming a type of material generally known to exist, in the absence of knowledge as to what that material consists of, is not a description of that material.

Regarding applicants comments about Capon v. Eshhar (CAFC August, 2005), the invention under consideration in said case was a conjugate that used two known components. The invention was the conjugate, not the components. The components of the conjugate (scFv and transmembrane/cytoplasmic domain of a portion that triggers

cell activation) were well known in the art. Thus, their invention was a conjugate using components well known in the art. Thus, said decision is not relevant to the claims under consideration wherein Human DEC-205 was not known in the art (it had not been isolated or sequenced).

5. Claims 6-9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

There is no support in the specification for the recitation of "human DEC-205 protein comprising an amino acid sequence as set forth in SEQ ID 7" in claim 6. Whilst the specification discloses SEQ ID NO 7 as a peptide derived from DEC 205, there is no disclosure in the specification as originally filed of a DEC-205 protein comprising said peptide wherein the molecule could have any amino acids in association with the aforementioned sequences recited in the claim. There is no written description in the specification as originally filed for the scope of the claimed invention (e.g. the claimed invention constitutes new matter). Regarding the various cited passages of the specification, none of the passages disclose human DEC-205 protein comprising an amino acid sequence as set forth in SEQ ID 7 in claim 6. Whilst the specification discloses SEQ ID NO 7 as a peptide derived from DEC 205, there is no disclosure in the specification as originally filed of a DEC-205 protein comprising said peptide wherein the molecule could have any other amino acids in association with the aforementioned sequences recited in the claim.

Regarding applicants comments, the instant rejection addresses the issue of new matter (as state above, "There is no written description in the specification as originally filed for the scope of the claimed invention (e.g. the claimed invention constitutes *new matter*)."). Regarding applicants comments, claims 13-17 are not included in the instant rejection. Regarding applicants comments, whilst the specification discloses SEQ ID NO 7 as a peptide derived from DEC 205, there is no disclosure in the specification as originally filed of a DEC-205 protein comprising said peptide wherein the molecule could have any amino acids in association with the aforementioned sequences recited in the claim.

There is no written description in the specification as originally filed for the scope of the claimed invention (e.g. the claimed invention constitutes new matter). Regarding the various cited passages of the specification, none of the passages disclose human DEC-205 protein comprising an amino acid sequence as set forth in SEQ ID 7 in claim 6. Whilst the specification discloses SEQ ID NO 7 as a peptide derived from DEC 205, there is no disclosure in the specification as originally filed of a DEC-205 protein comprising said peptide wherein the molecule could have any other amino acids in association with the aforementioned sequences recited in the claim.

6. Claims 6-9,13-21 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention .

The specification does not disclose how to use the instant invention for the enhancing of tolerance or treating allograft rejection in humans in vivo or treating autoimmune disease in vivo in humans. The instant claims read on a method for enhancing tolerance wherein the use of the instant invention disclosed in the specification is treating graft rejection in humans and treating autoimmune disease. Also see claims 6/13 wherein said claims recite autoantigens and allograft antigens wherein the only real life use for said method would be treating disease in vivo in humans. The specification has not enabled the breadth of the claimed invention in view of the teachings of the specification. The specification does not disclose how to use the instant invention for the in vivo treatment of disease in humans. Applicant has not enabled the breadth of the claimed invention in view of the teachings of the specification because the use for the instant invention disclosed in the specification is the enhancing of tolerance and treating graft rejection in humans in vivo including in vivo treatment of allograft rejection in mammals including humans or treatment of autoimmune disease. The state of the art is such that is unpredictable in the absence of appropriate evidence as to how the instant invention could be used in vivo for the induction of tolerance and treating graft rejection in humans in vivo including in vivo treatment of allograft rejection in mammals including humans or treatment of autoimmune disease.

Judge Lourie stated in Enzo Biochem Inc. v. Calgene Inc. CAFC 52 USPQ2d 1129 that:

The statutory basis for the enablement requirement is found in Section 112, Para. 1, which provides in relevant part that:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same. . . .

35 U.S.C. Section 112, Para. 1 (1994). "To be enabling, the specification of a patent must teach those skilled in the art how to make and use the full scope of the claimed invention without 'undue experimentation.' " Genentech, Inc. v. Novo Nordisk, A/S , 108 F.3d 1361, 1365, 42 USPQ2d 1001, 1004 (Fed. Cir. 1997) (quoting In re Wright , 999 F.2d 1557, 1561, 27 USPQ2d 1510, 1513 (Fed. Cir. 1993)). Whether claims are sufficiently enabled by a disclosure in a specification is determined as of the date that the patent application was first filed, see Hybritech, Inc. v. Monoclonal Antibodies, Inc. , 802 F.2d 1367, 1384, 231 USPQ 81, 94 (Fed. Cir. 1986), which in this case is October 20, 1983 for both the '931 and '149 patents.

We have held that a patent specification complies with the statute even if a "reasonable" amount of routine experimentation is required in order to practice a claimed invention, but that such experimentation must not be "undue." See, e.g., Wands , 858 F.2d at 736-37, 8 USPQ2d at 1404 ("Enablement is not precluded by the necessity for some experimentation . . . . However, experimentation needed to practice the invention must not be undue experimentation. The key word is 'undue,' not 'experimentation.' ") (footnotes, citations, and internal quotation marks omitted). In In re Wands , we set forth a number of factors which a court may consider in determining whether a disclosure would require undue experimentation. These factors were set forth as follows:

(1) the quantity of experimentation necessary, (2) the amount of direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claims.

Id. at 737, 8 USPQ2d at 1404. We have also noted that all of the factors need not be reviewed when determining whether a disclosure is enabling. See Amgen, Inc. v. Chugai Pharm. Co., Ltd. , 927 F.2d 1200, 1213, 18 USPQ2d 1016, 1027 (Fed. Cir. 1991) (noting that the Wands factors "are illustrative, not mandatory. What is relevant depends on the facts.").

Regarding Wands factors 4,5,7,8, the instant invention deals with a method used in vivo for the enhancement of tolerance and treating allograft rejection in humans in vivo including in vivo treatment of allograft rejection or treatment of autoimmune disease. Regarding the enhancement of tolerance/immunosuppression, Nossal teaches that, "There has been a great deal of discussion as to whether suppression can be achieved in therapeutic models by applying the principles coming from model situations."(page 582, column one, penultimate paragraph). Nossal further expounds on reasons why animal models are not necessarily analogous to the situations encountered in human disease (page 582, column one, penultimate paragraph). The specification provides no working examples demonstrating that the instant invention can be used for the induction of tolerance/ treatment of disease in vivo in humans or any animal model. It is well known in the art that rodent models for the study of transplantation do not produce results that are readily applicable to humans. Tueveson et al. teach that one problem with rodent models of transplantation is that rejection is easily overcome in said models in comparison to the difficulty of overcoming allograft rejection in humans (see page 100, first full paragraph). Tueveson et al. also teach that, "However, today's small animal models seem to be insufficient to produce data for clinical decision-making." (page 101, second paragraph). Thus, the state of the art is that it is highly unpredictable whether any particular method can be used to successfully achieve allograft transplantation in humans. As per Wands factor (8), the claims encompass the treatment of human disease using the claimed method. Regarding claims 6/13, zero evidence has been provided regarding the use of the claimed method to treat autoimmune disease. Regarding Wands factors (4) and (8), the claims encompass treatment of autoimmune disease in vivo in humans. Regarding Wands factors (5) and (7), there is a high degree of unpredictability in the art. For example, Spack teaches that

attempts to treat MS (aka an autoimmune disease) via inducing tolerance to myelin protein have been unsuccessful (see abstract). Similarly, the art recognizes that attempts to treat rheumatoid arthritis via inducing tolerance to collagen have been unsuccessful (see McKown et al.). Thus, it is recognized in the art that it is unpredictable whether human disease can be treated via enhancing tolerance to a disease antigen. Regarding Wands factor (3), while the specification provides an example in a mouse model (albeit wherein no disease has bee3n treated), there were copious amounts of mouse research that suggested that tolerance could be used to treat MS or rheumatoid arthritis, yet said diseases were not successfully treated in humans using tolerance. Regarding Wands factor (2), there is no disclosure in the specification as to what doses would be used to induce the functional parameters recited in the claim which are related to properties of the tolerance induction mechanism.

Regarding Wands factors 1-3, the specification discloses experimental data from experiments performed in mice, wherein no diseases were actually treated. Tueveson et al. teach that one problem with rodent models of transplantation is that rejection is easily overcome in said models in comparison to the difficulty of overcoming allograft rejection in humans (see page 100, first full paragraph). Tueveson et al. also teach that, "However, today's small animal models seem to be insufficient to produce data for clinical decision-making." (page 101, second paragraph). Mestas et al. disclose that the immune response of mice differs in numerous significant ways from the immune response found in humans (see abstract). Regarding Wands factor 6, the relative skill of those in the art is high (eg. Ph.D. or M.D.). Undue experimentation would be required of one skilled in the art to practice the instant invention using the teaching of the specification. See In re Wands 8 USPQ2d 1400(CAFC 1988).

Regarding applicants comments and references that are not of record and of which a copy of said reference has not been submitted, said comments will not be addressed. Regarding applicants various unsupported statements regarding the prior art, the MPEP section 716.01(c) [R-2] states:

>II. < ATTORNEY ARGUMENTS CANNOT TAKE THE PLACE OF EVIDENCE

The arguments of counsel cannot take the place of evidence in the record. In re Schulze, 346 F.2d 600, 602, 145 USPQ 716, 718 (CCPA 1965).

The instant invention deals with a method used in vivo for the enhancement of tolerance and treating allograft rejection in humans in vivo including in vivo treatment of allograft rejection or treatment of autoimmune disease. Regarding the enhancement of tolerance/immunosuppression, Nossal teaches that, "There has been a great deal of discussion as to whether suppression can be achieved in therapeutic models by applying the principles coming from model situations."(page 582, column one, penultimate paragraph). Nossal further expounds on reasons why animal models are not necessarily analogous to the situations encountered in human disease (page 582, column one, penultimate paragraph). The specification provides no working examples demonstrating that the instant invention can be used for the induction of tolerance/ treatment of disease in vivo in humans or any animal model. It is well known in the art that rodent models for the study of transplantation do not produce results that are readily applicable to humans. Tueveson et al. teach that one problem with rodent models of transplantation is that rejection is easily overcome in said models in comparison to the difficulty of overcoming allograft rejection in humans (see page 100, first full paragraph). Tueveson et al. also teach that, "However, today's small animal models seem to be insufficient to produce data for clinical decision-making." (page 101, second paragraph). Thus, the state of the art is that it is highly unpredictable whether any particular method can be used to successfully achieve allograft transplantation in humans. As per Wands factor (8), the claims encompass the treatment of human disease using the claimed method. Regarding claims 6/13, zero evidence has been provided regarding the use of the claimed method to treat autoimmune disease. Regarding Wands factors (4) and (8), the claims encompass treatment of autoimmune disease in vivo in humans. Regarding Wands factors (5) and (7), there is a high degree of unpredictability in the art. For example, Spack teaches that attempts to treat MS (aka an autoimmune disease) via inducing tolerance to myelin protein have been unsuccessful (see abstract). Similarly, the art recognizes that attempts to treat rheumatoid arthritis via inducing tolerance to collagen have been unsuccessful (see McKown et al.). Thus, it is recognized in the art that it is unpredictable whether human disease can be treated via enhancing tolerance to a disease antigen. Regarding Wands factor (3), while the specification provides an example in a mouse model (albeit wherein no disease has bee3n treated), there were copious amounts of mouse research that

suggested that tolerance could be used to treat MS or rheumatoid arthritis, yet said diseases were not successfully treated in humans using tolerance. Regarding Wands factor (2), there is no disclosure in the specification as to what doses would be used to induce the functional parameters recited in the claim which are related to properties of the tolerance induction mechanism.

Regarding Wands factors 1-3, the specification discloses experimental data from experiments performed in mice, wherein **no diseases were actually treated**. Tueveson et al. teach that one problem with rodent models of transplantation is that rejection is easily overcome in said models in comparison to the difficulty of overcoming allograft rejection in humans (see page 100, first full paragraph). Tueveson et al. also teach that, "However, today's small animal models seem to be insufficient to produce data for clinical decision-making." (page 101, second paragraph). Mestas et al. disclose that the immune response of mice differs in numerous significant ways from the immune response found in humans (see abstract). Regarding applicanst comments about the incomplete quote from Mestas et al., Mestas et al. actually go on to state on page 2731:

However, as 65 million years of evolution might suggest, there are significant differences. Here we outline known discrepancies in both innate and adaptive immunity, including: balance of leukocyte sub\-sets, defensins, Toll receptors, inducible NO synthase, the NK inhibitory receptor families Ly49 and KIR, FcR, Ig subsets, the B cell (BLNK, Btk, and A5) and T cell (ZAP70 and common γ-chain) signaling pathway components, Thy-1, $\gamma\delta$ T cells, cytokines and cytokine receptors, Th1/Th2 differentiation, costimulatory molecule expression and function, Ag-presenting function of endo\-thelial cells, and chemokine and chemokine receptor ex\-pression. We also provide examples, such as multiple sclerosis and delayed-type hypersensitivity, where complex multicomponent processes differ. Such differences should be taken into account when using mice as preclinical mod\-els of human disease. The Journal of Immunology, 2004, 172: 2731-2738.

7. No claim is allowed.

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ron Schwadron, Ph.D. whose telephone number is (571)272-0851. The examiner can normally be reached on Monday-Thursday 7:30-6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ram Shukla can be reached on 571 272-0735. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ron Schwadron/
Ron Schwadron, Ph.D.
Primary Examiner
Art Unit 1644